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MEJIA, ANTHONY

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/750,600	LAMPORT, LESLIE B.
	Examiner	Art Unit
	ANTHONY MEJIA	2451

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>30 December 2003</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-38</u> is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-38</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>30 December 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. _____.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date <u>12/30/2003 + 12/20/2204 +03/07/2005 + 05/08/2005.</u>
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1.   It is hereby acknowledged that Claims 1-38 are currently pending in the instant

application and are now being presented.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   Claims 1-8, 14, 17, and 24 are rejected under 35 U.S.C. 112, second paragraph,

as being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention. For example, Claim 1 recites the

phrase: "sufficient information", which is vague and/or ambiguous in that it raises

uncertainty as to what requisite degree the phrase "sufficient information" is referring to.

Appropriate correction is required. *See* MPEP § 608.01(m).

4.   Claims 3, 7, 15, 25, 32, and 38 are rejected under 35 U.S.C. 112, second

paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention. For example, Claim 3 recites

the term: "inexpensive device", which is vague and/or ambiguous in that it raises

uncertainty as to what requisite degree the phrase "inexpensive device" is referring to.

Appropriate correction is required. *See* MPEP § 608.01(m).

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6.   Claims 8-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. For example, the preamble of claim 8 recites "A computer-readable medium having computer-executable instructions for..." However, par [0046] of the specification recites:

"…..computer readable media may comprise storage media and communication media…. Communication media typically embodies computer readable instructions, data structures, program modules or other data in *__a modulated data signal such as a carrier wave or other transport mechanism and includes any information delivery media. The term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal__* (emphasis added)."

However, a data signal is not one of the four statutory classes of inventions as it is neither a "machine", "article of manufacture", "composition of matter" or a "process" and thus Claims 8-32 are directed toward non-statutory subject matter.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over

AAPA and in further view of Halpern (US 7,392,302).

        Regarding Claim 1, AAPA teaches a method for selecting a value in a distributed

computing system, the method comprising:

        transmitting a proposed value, a vote for the proposed value, a first proposal

identifier and a first step identifier, wherein the vote for the proposed value provides a

first recipient device sufficient information to determine, based on the vote for the

proposed value and its own vote (pars [0003-0010]).

        AAPA does not explicitly teach the step:

        whether a first quorum of the distributed computing system has selected the

proposed value in a first system step identified by the first step identifier.

        However, Halpern in a similar field of endeavor discloses systems and methods

for automated service migration including the step of:

        whether a first quorum of the distributed computing system has selected a

proposed value in a first system step identified by the first step identifier (e.g., a quorum

of servers in a cluster agree on a decision ,col.3, lines 5-48, col.7, lines 51-67, col.8,

lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11, lines 34-57,

col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the teachings of Halpern in the teachings of AAPA to allow

a quorum, such as a group of servers, collectively determine how to create a proposed

value in handling a task on distributed computing system. One of ordinary skill in the art

at the time the invention was made would have been motivated to combine the

teachings of Halpern and AAPA to help minimize message delay on the distributed

computing system.

Regarding Claim 4, the combined teachings of AAPA and Halpern teach a

method for selecting a value in a distributed computing system, the method comprising

receiving a proposed value, a vote for the proposed value, a first proposal identifier and

a first step identifier (AAPA: pars [0003-0010]), wherein the vote for the proposed value

provides sufficient information to determine whether a first quorum of the distributed

computing system has selected the proposed value in a first system step identified by

the first step identifier (Halpern: e.g., a quorum of servers in a cluster agree on a

decision ,col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-

18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67,

and col.7, lines 30-49).

Regarding Claim 5, the combined teachings of AAPA and Halpern further teach wherein the method further comprises the step of:

selecting the proposed value and transmitting, without waiting for additional messages, the selection of the proposed value to a client device that had originally proposed the proposed value, if the first proposal identifier is greater than or equal to a previously responded to proposal identifier (pars [0003-0010]).

Regarding Claim 8, AAPA teaches a computer-readable medium having computer-executable instructions for selecting a value in a distributed computing system, the computer-executable instructions performing steps comprising transmitting a proposed value, a vote for the proposed value, a first proposal identifier and a first step identifier, wherein the vote for the proposed value provides a first recipient device sufficient information to determine (AAPA: pars [0003-0010]), based on the vote for the proposed value and its own vote, whether a first quorum of the distributed computing system has selected the proposed value in a first system step identified by the first step identifier (Halpern: e.g., a quorum of servers in a cluster agree on a decision ,col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 9, the combined teachings of AAPA and Halpern further teach wherein the computer-readable further comprises the steps wherein the first quorum of the distributed computing system comprises a first transmitting device and the first

recipient device, wherein the first transmitting device transmitted the proposed value, the vote for the proposed value, the first proposal identifier and the first step identifier (AAPA: pars [0003-0010]).

Regarding Claim10, AAPA further teaches wherein the computer-readable medium comprises the steps of wherein the proposed value is a proposed function to be executed by the distributed computing system (pars [0003-0010])

Regarding Claim 11, AAPA teaches wherein the computer-readable medium further comprises computer-executable instructions performing steps comprising receiving, from the first recipient device, a result of an execution of the proposed function by the first recipient device (pars [0003-0010]).

Regarding Claim 13, AAPA further teaches wherein the computer-readable medium further comprises the computer-executable instructions performing step(s) of:

selecting, as the first proposal identifier, a greater identifier than any of the previously voted for proposal identifier; and selecting, as the proposed value, one of the previously voted for value (pars [0003-0010]).

Regarding Claim 16, Halpern further teaches wherein the computer-readable medium further comprises the computer-executable instructions performing step(s) of:

wherein the operational quorum comprises the first quorum of the distributed

computing system, and wherein the second system step precedes the first system step

(e.g., a quorum of servers in a cluster agree on a decision ,col.3, lines 5-48, col.7, lines

51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54,

col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim19, AAPA further teaches wherein the computer-readable

medium further comprises the computer-executable instructions performing step(s) of:

selecting the proposed value and transmitting the selection of the proposed value

if the first proposal identifier is greater than or equal to a previously responded to

proposal identifier (pars [0003-0010]).

Regarding Claim 20, AAPA further teaches wherein the computer-readable

medium further comprises the computer-executable instructions performing step(s) of:

wherein the proposed value is a proposed function to be executed by the

distributed computing system (pars [0003-0010]).

Regarding Claim 21, AAPA further teaches wherein the computer-readable

medium further comprises the computer-executable instructions performing step(s) of:

executing the proposed function, and transmitting a result of the execution of the

proposed function (pars [0003-0010]).

Regarding Claim 22, AAPA further teaches wherein the computer-readable medium further comprises the computer-executable instructions performing step(s) of:

transmitting an indication of a selection of the proposed function (pars [0003-0010]).

Regarding Claim 23, AAPA further teaches wherein the computer-readable medium further comprises the computer-executable instructions performing step(s) of:

receiving a suggested next proposal identifier for the first system step; and transmitting a suggested next proposal identifier response, wherein the suggested next proposal identifier response is null if no vote for the first system step was previously made (pars [0003-0010]), and

wherein the suggested next proposal identifier response comprises an indication of a previously voted for value and a previously voted for proposal identifier, corresponding to the first system step, if a vote for the first system step was previously made (pars [0003-0010]).

Regarding Claim 27, AAPA teaches a computing device in a distributed computing system implementing a distributed fault-tolerant consensus algorithm, the computing device transmitting a proposed value, a vote for the proposed value, a first proposal identifier and a first step identifier to a first recipient computing device (pars [0003-0010]).

However, Halpern in a similar field of endeavor discloses systems and methods for automated service migration including the step of:

whether a first quorum of the distributed computing system has selected a proposed value in a first system step identified by the first step identifier (e.g., a quorum of servers in a cluster agree on a decision ,col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Halpern in the teachings of AAPA to allow a quorum, such as a group of servers, collectively determine how to create a proposed value in handling a task on distributed computing system. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Halpern and AAPA to help minimize message delay on the distributed computing system.

Regarding Claim 28, Halpern further teaches wherein the computer-readable medium further comprises the computer-executable instructions performing step(s) of:

wherein the first quorum of the distributed computing system comprises the computing device and the first recipient computing device (e.g., a quorum of servers in a cluster agree on a decision ,col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 29, the combined teachings of AAPA and Halpern further teach wherein the computer-readable medium further comprises the computer-executable instructions performing step(s) of:

transmitting, to a second quorum of devices in the distributed computing system, a suggested next proposal identifier for the first system step; and receiving, from each device in the second quorum of devices in the distributed computing system, a suggested next proposal identifier response (AAPA: pars [0003-0010]), wherein the suggested next proposal identifier response is null if the each device in the second quorum of devices had not previously voted for the first system step, and wherein the suggested next proposal identifier response comprises an indication of a previously voted for value and a previously voted for proposal identifier, corresponding to the first system step, if the each device in the second quorum of devices had, for the first system step, previously voted (Halpern: e.g., a quorum of servers in a cluster agree on a decision ,col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 30, AAPA further teaches wherein the computer-readable medium further comprises the computer-executable instructions performing step(s) of:

selecting, as the first proposal identifier, a greater identifier than any of the previously voted for proposal identifier; and selecting, as the proposed value, one of the previously voted for value (pars [0003-0010]).

Regarding Claim 33, AAPA teaches a computing device in a distributed computing system implementing a distributed fault-tolerant consensus algorithm, the computing device receiving a proposed value, a vote for the proposed value, a first proposal identifier and a first step identifier (pars [0003-0010]).

AAPA does not explicitly teach wherein the vote for the proposed value enables the computing device to determine whether a first quorum of the distributed computing system has selected the proposed value in a first system step identified by the first step identifier.

However, Halpern in a similar field of endeavor discloses systems and methods for automated service migration including the step of:

whether a first quorum of the distributed computing system has selected a proposed value in a first system step identified by the first step identifier (e.g., a quorum of servers in a cluster agree on a decision ,col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Halpern in the teachings of AAPA to allow a quorum, such as a group of servers, collectively determine how to create a proposed value in handling a task on distributed computing system. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the

teachings of Halpern and AAPA to help minimize message delay on the distributed

computing system.

Regarding Claim 34, AAPA further teaches wherein the computing device further

comprises:

wherein the first quorum comprises the computing device and a first transmitting

computing device, wherein the first transmitting computing device transmitted the

proposed value, the vote for the proposed value, the first proposal identifier and the first

step identifier (pars [0003-0010]).

Regarding Claim 35, the AAPA further teaches wherein the computing device

further comprises:

selecting the proposed value and transmitting, without waiting for additional

messages, the selection of the proposed value to a client computing device that had

originally proposed the proposed value, if the first proposal identifier is greater than or

equal to a previously responded to proposal identifier (pars [0003-0010]).

Regarding Claim 36, AAPA further teaches wherein the computing device further

comprises:

receiving a suggested next proposal identifier for the first system step; and

transmitting a suggested next proposal identifier response, wherein the suggested next

proposal identifier response is null if no vote for the first system step was previously made, and wherein the suggested next proposal identifier response comprises an indication of a previously voted for value and a previously voted for proposal identifier, corresponding to the first system step, if a vote for the first system step was previously made (pars [0003-0010]).

Regarding Claim 2, AAPA teaches the method of claim 1 as discussed above. AAPA does not explicitly teach the step wherein the method further comprises the step of:

transmitting a proposal for an operational quorum, a vote for the proposal for the operational quorum, a second proposal identifier and a second step identifier, wherein the vote for the proposal for the operational quorum provides a second recipient device sufficient information to determine, based on the vote for the proposal for the operational quorum and its own vote, whether a second quorum of the distributed computing system has selected the proposal for the operational quorum in a second system step identified by the second step identifier; and receiving an indication of the selection of the proposal for the operational quorum.

However, Halpern in a similar field of endeavor discloses systems and methods for automated service migration including the step of:

transmitting a proposal for an operational quorum, a vote for the proposal for the operational quorum, a second proposal identifier and a second step identifier, wherein the vote for the proposal for the operational quorum provides a second recipient device

sufficient information to determine, based on the vote for the proposal for the

operational quorum and its own vote, whether a second quorum of the distributed

computing system has selected the proposal for the operational quorum in a second

system step identified by the second step identifier; and receiving an indication of the

selection of the proposal for the operational quorum (col.3, lines 5-48, col.7, lines 51-

67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11,

lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the teachings of Halpern in the teachings of AAPA to allow

secondary client devices of a distributed computing system being capable to listen to

the results of executions being performed on the system. One of ordinary skill in the art

at the time the invention was made would have been motivated to combine the

teachings of AAPA and Halpern to help minimize message delay on the distributed

computing system.

   Regarding Claim 3, Halpern further teaches the steps wherein the second

quorum of the distributed computing system comprises a second transmitting device

and the second recipient device, wherein the second transmitting device transmitted the

proposal for the operational quorum, the vote for the proposal for the operational

quorum, the second proposal identifier, and the second step identifier, and wherein the

second recipient device is an inexpensive computing device (col.3, lines 5-48, col.7,

lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54,

col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 6, Halpern further teaches wherein the steps of:

receiving a proposal for an operational quorum, a vote for the proposal for the

operational quorum, a second proposal identifier and a second step identifier, wherein

the vote for the proposal for the operational quorum provides sufficient information to

determine whether a second quorum of the distributed computing system has selected

the proposal for the operational quorum in a second system step identified by the

second step identifier;

selecting the proposal for the operational quorum if the second proposal identifier

is greater than or equal to a previously responded to proposal identifier; and transmitting

an indication of the selection of the proposal for the operational quorum (col.3, lines 5-

48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10,

lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 7, Halpern further teaches wherein the second quorum of the

distributed computing system comprises a second transmitting device and a second

recipient device, wherein the second transmitting device transmitted the proposal for the

operational quorum, the vote for the proposal for the operational quorum, the second

proposal identifier, and the second step identifier, and wherein the second recipient

device received the proposal for the operational quorum, the vote for the proposal for

the operational quorum, the second proposal identifier, and the second step identifier,

and wherein further the second recipient device is an inexpensive computing device

(col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and

40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7,

lines 30-49).

     Regarding Claim 12, Halpern further teaches wherein the computer-readable

medium having further computer-executable instructions performing steps comprising:

transmitting, to a second quorum of devices in the distributed computing system, a

suggested next proposal identifier for the first system step; and receiving, from each

device in the second quorum of devices in the distributed computing system, a

suggested next proposal identifier response, wherein the suggested next proposal

identifier response is null if the each device in the second quorum of devices had not

previously voted for the first system step, and wherein the suggested next proposal

identifier response comprises an indication of a previously voted for value and a

previously voted for proposal identifier, corresponding to the first system step, if the

each device in the second quorum of devices had previously voted for the first system

step (col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18,

and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and

col.7, lines 30-49).

Regarding Claim 14, Halpern further teaches wherein the computer-readable medium having further computer-executable instructions performing steps comprising:

transmitting a proposal for an operational quorum, a vote for the proposal for the operational quorum, a second proposal identifier and a second step identifier, wherein the vote for the proposal for the operational quorum provides a second recipient device sufficient information to determine, based on the vote for the proposal for the operational quorum and its own vote, whether a second quorum of the distributed computing system has selected the proposal for the operational quorum in a second system step identified by the second step identifier; and receiving an indication of the selection of the proposal for the operational quorum (col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 15, Halpern further teaches wherein the computer-readable medium comprising the steps:

wherein the second quorum of the distributed computing system comprises a second transmitting device and the second recipient device, wherein the second transmitting device transmitted the proposal for the operational quorum, the vote for the proposal for the operational quorum, the second proposal identifier, and the second step identifier, and wherein the second recipient device is an inexpensive computing device (col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-

18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67,

and col.7, lines 30-49).

Regarding Claim 17, Halpern teaches a computer-readable medium having

computer-executable instructions for selecting a value in a distributed computing

system, the computer-executable instructions performing steps comprising receiving a

proposed value, a vote for the proposed value, a first proposal identifier and a first step

identifier, wherein the vote for the proposed value provides sufficient information to

determine whether a first quorum of the distributed computing system has selected the

proposed value in a first system step identified by the first step identifier (col.3, lines 5-

48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10,

lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 18, Halpern further wherein the computer-readable medium

comprises the step:

wherein the first quorum of the distributed computing device comprises a first

transmitting device and a first recipient device, wherein the first transmitting device

transmitted the proposed value, the vote for the proposed value, the first proposal

identifier and the first step identifier, and the first recipient device received the proposed

value, the vote for the proposed value, the first proposal identifier and the first step

identifier (col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-

18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67,

and col.7, lines 30-49).

Regarding Claim 24, Halpern teaches wherein the computer-readable medium

further comprises computer-executable instructions performing steps comprising:

receiving a proposal for an operational quorum, a vote for the proposal for the

operational quorum, a second proposal identifier and a second step identifier, wherein

the vote for the proposal for the operational quorum provides sufficient information to

determine whether a second quorum of the distributed computing system has selected

the proposal for the operational quorum in a second system step identified by the

second step identifier;

selecting the proposal for the operational quorum if the second proposal identifier

is greater than or equal to a previously responded to proposal identifier; and transmitting

an indication of the selection of the proposal for the operational quorum (col.3, lines 5-

48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10,

lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 25, Halpern further teaches wherein the computer-readable

medium further comprises the steps:

wherein the second quorum of the distributed computing system comprises a

second transmitting device and a second recipient device, wherein the second

transmitting device transmitted the proposal for the operational quorum, the vote for the

proposal for the operational quorum, the second proposal identifier, and the second

step identifier, and wherein the second recipient device received the proposal for the

operational quorum, the vote for the proposal for the operational quorum, the second

proposal identifier, and the second step identifier, and wherein further the second

recipient device is an inexpensive computing device (col.3, lines 5-48, col.7, lines 51-

67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11,

lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 26, Halpern teaches the computer-readable medium further

comprises the step:

wherein the operational quorum comprises the first quorum of the distributed

computing system, and wherein the second system step precedes the first system step

(col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and

40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7,

lines 30-49).

Regarding Claim 31, Halpern teaches wherein the computing device comprises

the steps of:

transmitting a proposal for an operational quorum, a vote for the proposal for the

operational quorum, a second proposal identifier and a second step identifier, wherein

the vote for the proposal for the operational quorum enables a second recipient

computing device to determine whether a second quorum of the distributed computing

system has selected the proposal for the operational quorum in a second system step

identified by the second step identifier; and receiving an indication of the selection of the

proposal for the operational quorum (col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-

3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12,

lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 32, Halpern teaches wherein the computing device further

comprises the steps of:

wherein the second quorum of the distributed computing system comprises the

computing device and the second recipient computing device, and wherein the second

recipient computing device is an inexpensive computing device (col.3, lines 5-48, col.7,

lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54,

col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 37, Halpern teaches wherein the computing device further

comprises the steps of:

receiving a proposal for an operational quorum, a vote for the proposal for the

operational quorum, a second proposal identifier and a second step identifier, wherein

the vote for the proposal for the operational quorum enables the computing device to

determine whether a second quorum of the distributed computing system has selected

the proposal for the operational quorum in a second system step identified by the

second step identifier;

selecting the proposal for the operational quorum if the second proposal identifier is greater than or equal to a previously responded to proposal identifier; and transmitting an indication of the selection of the proposal for the operational quorum (col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Regarding Claim 38, Halpern teaches wherein the computing device further comprises the step:

wherein the second quorum of the distributed computing system comprises the computing device and a second transmitting device, wherein the second transmitting device transmitted the proposal for the operational quorum, the vote for the proposal for the operational quorum, the second proposal identifier, and the second step identifier, and wherein the computing device is an inexpensive computing device (col.3, lines 5-48, col.7, lines 51-67, col.8, lines 1-3, lines 28-67, col.9, lines 1-18, and 40-68, col.10, lines 1-54, col.11, lines 34-57, col.12, lines 1-10, lines 50-67, and col.7, lines 30-49).

Conclusion

Examiner has cited particular paragraphs, columns, and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully

consider the references in entirety as potentially teaching all or part of the claimed

invention, as well as the context of the passage as taught by the prior art or disclosed

by the Examiner.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ANTHONY MEJIA whose telephone number is

(571)270-3630. The examiner can normally be reached on Mon-Thur 9:30AM-8:00PM

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

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